PLANT LIFE of the Northwest Territories

PUBLIC INFORMATION SERIES

Plant life in the Northwest Territories is diverse. There are at least 834 different flowering plants, not to mention those which can be grown domestically.

From the Arctic ferns in the northern regions to the south where even roses are in evidence, there is no doubt that the trees, grasses and plants of the N.W.T. exhibit as much variety as the land itself.

It is the northern climate that shapes the unique plant life of the N.W.T. Summer in the high arctic brings uninterrupted sunlight for almost six months between the spring and fall equinoxes. Even in the southern parts of the N.W.T., the summer sun lasts for approximately 20 hours a day during June and July.

Growing seasons in the Northwest Territories vary according to region. In the eastern arctic, the frost-free period is about 40 days. It is 50-60 days in the western arctic. The subarctic region varies from 60 days in the barrenlands (central N.W.T) to anywhere from 50-100 days in the Mackenzie Valley and Great Slave Lake areas.

Without its short, cool summers the N.W.T. would be a virtual desert. There is very little precipitation (13-40 cm annually) and a lack of fertile soil. Cold climate, along with permafrost, retains much needed moisture in the soil, thus preventing dehydration.

For the purposes of describing the vegetation, this pamphlet has divided the N.W.T. into three regions: **arctic tundra, subarctic** and **coniferous forest.**

Arctic Tundra Region Above the treeline the land is called the tundra. This is an area of continuous permafrost where the soil never completely thaws out beneath the thin layers of lichen, grasses, mosses, low scrubby shrubs and Arctic flowers.

The vegetation resembles that found in Canada's high mountain regions. Plants having similar requirements as to soil, moisture and wind or snow protection usually grow together in specific areas.

The arctic tundra consists of roughly two types of areas; **glacial drift plains** and **rocky uplands.**

In the plains, where rocky debris has been left by glaciers, one can find grasses with many flowers such as the Arctic poppy, Arctic dandelion and mountain avens (the territorial flower). This area encompasses most of the southern part of the tundra.

In the rocky uplands, there are shrubs such as ground birch and Labrador tea. Arctic ferns and lichen grow where there is little or no soil. The northern-most part of the N.W.T. mainland and the islands of the Arctic archipeligo form this part of the tundra.

Because of sparse vegetation, there is little humus (the dark fertile part of soil formed by decaying vegetative matter). For this reason, the soil in the tundra remains thin and poor and no agricultural activity is possible.

Plants growing in the tundra use their own special techniques to adapt to arctic conditions. The summer season is generally too short for the usual cycle of flowering, fruiting and seed germination so most plants adapt by sprouting from existing stems and root systems.

Compared to southern Canada, plants in the tundra have a slower rate of reproduction. This is also a result of the short, cool summer.

The arctic plant root system must be short, as the soil generally only thaws out from 5 to 50 cm below the surface. However, the permafrost does retain moisture in the upper layers of the soil which is an aid to growth.

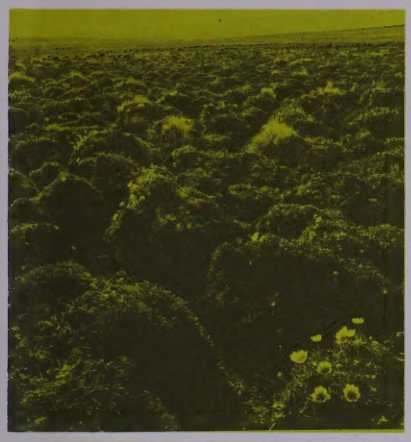
Plants in the tundra must be able to stand cool weather even in the summer. Some adapt by developing hairy stems and wooly seed covers which act as insulation. Some have dark pigmentation which absorbs more heat from the sun than light coloured plants. Most vegetation also grows close to the ground and in doing so traps the warmer air.

To reproduce and flower, all plants require great amounts of light and warmth. Therefore the long hours of sunlight compensate for the short, cool summers. In fact, many plants that grow in the tundra must have continuous sunlight in order to reproduce. Even if transplanted, they would not grow in the south.

However, the greatest hazard to arctic plants is the wind. It affects them by drying, flailing, and especially by grating from sand and snow particles. For protection, they grow in low, dense mats. In winter, no living parts are left above the snow's surface.

The flowers, fruits and seeds of the tundra region are useful as well as being colourful. Heather and berry bushes, alder and ground birch, lichen and especially raw peat are all important sources of fuel for the native people. Grazing animals such as the caribou, arctic hare, muskox and ground squirrels eat the seeds, winter buds and roots of many arctic plants.

Throughout the N.W.T., all vegetation must adapt to unfavorable northern conditions at some stage in their life cycle. However, the conditions for growth are less favorable in the tundra region than in the subarctic and coniferous forest regions.



Subarctic Region This is a transition zone of scattered coniferous (evergreen) trees and shrubs mixed with tundra vegetation. The most common trees are the spruce and larch. The white birch is also found here since it is one of the few deciduous trees able to withstand the cold climate.

There is little precipitation and a short growing season. As a result the growth of trees is slow and they are stunted and of little use to man.

The rocky areas in the central part of this region contain small trees but little other vegetation. The rest of the subarctic is covered mainly with lakes and swamps called muskegs. In the muskegs dense growths of spruce and tamarack are found around the edges and near the centre many shrubs and cranberries grow.

Coniferous Forest Region Only a small part of Canada's coniferous region lies in the N.W.T. The most common trees are spruce, balsam, fir, jack pine, birch, tamarack and aspen.

The soil is very similar to that in the subarctic region. It is not very fertile, as coniferous trees don't shed leaves which provide decaying matter to form the dark, fertile part of the soil. Generally, the soils are acidic, which results in the growth of the types of trees just mentioned.

In the coniferous region, it is possible to raise a great variety of plants, trees and vegetables. But because of the lack of some important nutrients in the soil, it is usually necessary to fertilize. Frequent watering is also essential because of the low rainfall (less than 13 cm annually).

Vegetables which can be grown here are beets, carrots, cabbage, lettuce, and peas; all of which are seeded directly into the garden. Many other varieties may be grown if started indoors and transplanted to the garden. Herbs such as rosemary, thyme and sage can also be grown. Tree fruits are generally not reliable, however, other fruits such as currants and gooseberries are native to the region.

Domestic flowers can be grown in much the same manner as vegetables. Some annuals such as cornflower and sunflower are grown by sowing seeds into the garden. Other types requiring transplanting are sweet pea and petunia.

Most perennial flowers have their seasons in June and July. Some common types grown in this region are the Icelandic poppy, delphinium and forget-me-not.

Trees and shrubs — Many imported trees, shrubs and bushes can be grown. Some examples are: honeysuckle, bush roses, silver willow and lilac.

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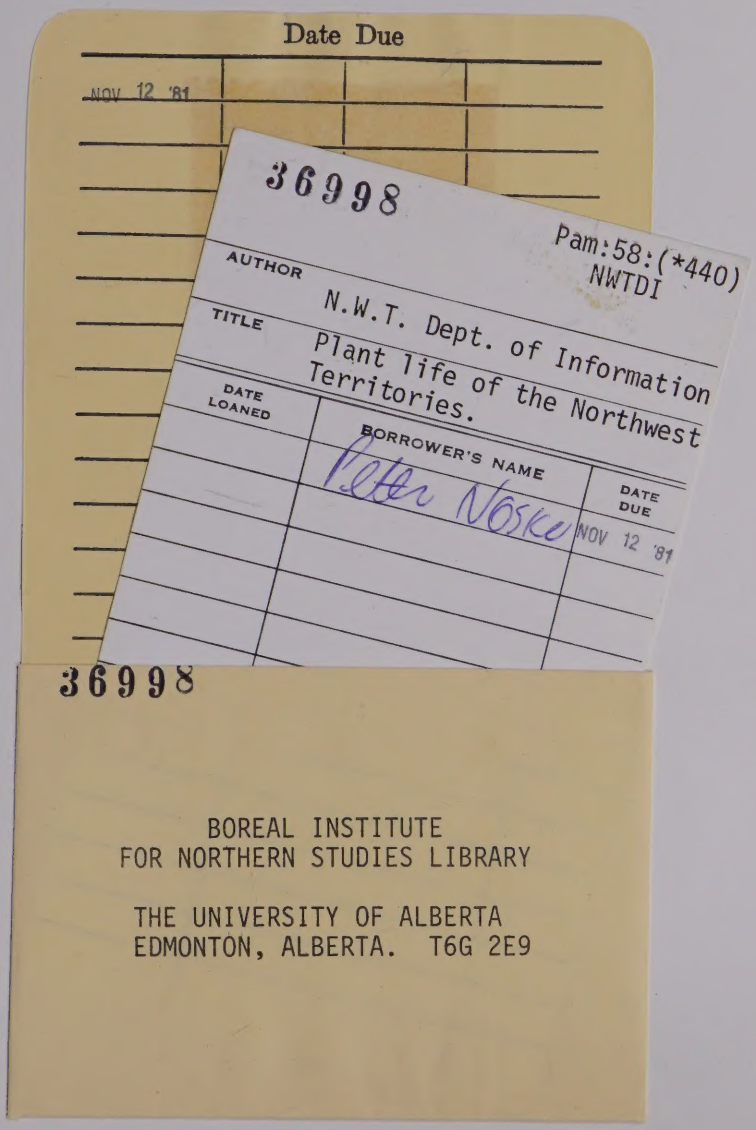
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